Docket No. AUS920030487US1

CLAIMS:

What is claimed is:

1. A method in a data processing system for monitoring execution of instructions, the method comprising:

identifying an instruction for execution;

determining whether the instruction is within a contiguous range of instructions; and

identifying execution information relating to the instruction if the instruction is within the contiguous range of instructions.

2. The method of claim 1 further comprising:

enabling counting of each event associated with execution of the instruction if the instruction is within the contiguous range of instructions to enable generation of execution information.

3. The method of claim 2, wherein the enabling step comprises:

sending a signal from an instruction cache to a performance monitor unit; and

counting each event associated with an execution of the instruction if the instruction is within the contiguous range of memory instructions to form the execution information.

4. The method of claim 1 further comprising:

determining whether the instruction is within a second contiguous range of instructions; and

Docket No. AUS920030487US1

identifying the execution information relating to the instruction if the instruction is within the second contiguous range of instructions.

5. The method of claim 1, wherein the execution information includes at least one of a number of visits to the range of instructions and a number of times the instruction has been executed.

6. The method of claim 1, wherein the determining step comprises:

comparing an address of the instruction to set of addresses in a set of registers in a processor to determine whether the instruction is in the contiguous range of instructions.

7. The method of claim 6 further comprising:

setting the set of registers using a performance tool.

8. A method in a data processing system for monitoring access to data in memory locations, the method comprising:

identifying an access to data in a memory location;

determining whether the memory location is within a contiguous range of memory locations; and

identifying information relating to the memory location the memory location is within the contiguous range of memory locations.

9. The method of claim 1 further comprising:

enabling counting of each event associated with access of the memory location if the memory location is within the contiguous range of memory locations to enable generating the information.

10. The method of claim 9, wherein the enabling step comprises:

sending a signal from a data cache to a performance monitor unit; and

counting each event associated with an access of the memory location if the memory location is within the contiguous range of memory locations to form the information.

11. The method of claim 8 further comprising:

determining whether the memory location is within a second contiguous range of memory locations; and

identifying the information relating to the memory location if the instruction is within the second contiguous range of memory locations.

12. The method of claim 8, wherein the execution information includes at least one of a number of visits to the range of memory locations and a number of times the memory location has been accessed.

13. The method of claim 8, wherein the determining step comprises:

Docket No. AUS920030487US1

comparing an address of the memory location to set
of addresses in a set of registers in a processor to
determine whether the memory location is in the
contiguous range of memory locations.

14. The method of claim 13 further comprising:
setting the set of registers using a performance
tool.

15. A data processing system for monitoring execution of
instructions, the data processing system comprising:
first identifying means for identifying an
instruction for execution;
determining means for determining whether the
instruction is within a contiguous range of instructions;
and
second identifying means for identifying execution
information relating to the instruction if the
instruction is within the contiguous range of
instructions.

16. The data processing system of claim 15 further
comprising:
enabling means for enabling counting of each event
associated with execution of the instruction if the
instruction is within the contiguous range of
instructions to enable generation of execution
information.

Docket No. AUS920030487US1

17.   The data processing system of claim 16, wherein the enabling means comprises:

sending means for sending a signal from an instruction cache to a performance monitor unit; and

counting means for counting each event associated with an execution of the instruction if the instruction is within the contiguous range of memory instructions to form the execution information.

18.   The data processing system of claim 15, wherein the the identifying means is a first identifying means and further comprising:

second determining means for determining whether the instruction is within a second contiguous range of instructions; and

third identifying means for identifying the execution information relating to the instruction if the instruction is within the second contiguous range of instructions.

19.   The data processing system of claim 15, wherein the execution information includes at least one of a number of visits to the range of instructions and a number of times the instruction has been executed.

20.   The data processing system of claim 15, wherein the determining step comprises:

comparing means for comparing an address of the instruction to set of addresses in a set of registers in

Docket No. AUS920030487US1

a processor to determine whether the instruction is in the contiguous range of instructions.

21. The data processing system of claim 20 further comprising:

setting means for setting the set of registers using a performance tool.

22. A data processing system for monitoring access to data in memory locations, the data processing system comprising:

first identifying means for identifying an access to data in a memory location;

determining means for determining whether the memory location is within a contiguous range of memory locations; and

second identifying means for identifying information relating to the memory location the memory location is within the contiguous range of memory locations.

23. The data processing system of claim 15 further comprising:

enabling means for enabling counting of each event associated with access of the memory location if the memory location is within the contiguous range of memory locations to enable generating the information.

24. A computer program product in a computer readable medium for monitoring execution of instructions, the computer program product comprising:

Docket No. AUS920030487US1

first instructions for identifying an instruction for execution;

second instructions for determining whether the instruction is within a contiguous range of instructions; and

third instructions for identifying execution information relating to the instruction if the instruction is within the contiguous range of instructions.

25. A computer program product in a computer readable medium for monitoring access to data in memory locations, the computer program product comprising:

first instructions for identifying an access to data in a memory location;

second instructions for determining whether the memory location is within a contiguous range of memory locations; and

third instructions for identifying information relating to the memory location the memory location is within the contiguous range of memory locations.